What is claimed is:

1. An optical switch comprising:

a reflector;

an optical waveguide array including N input waveguides and M output waveguides;

an elongated chamber having a reflector end where the reflector is held in a fixed position, an array end where the array is held in a fixed position at a selected distance from the reflector, and an aperture located between the reflector and array ends;

a refractive element extending through the chamber aperture and positioned between the fixed reflector and the fixed array, the refractive element having parallel major surfaces, an axis parallel to the major surfaces, and a plurality of angular positions for selectively coupling one of the N input waveguides with one of the M output waveguides; and

means for rotating the refractive element about the axis between angular positions.

2. An optical switch comprising:

a reflector;

an optical waveguide array including N input waveguides and M output waveguides;

means for holding the reflector and the waveguide array in a spaced apart, fixed orientation;

a refractive element having parallel major surfaces, and a plurality of angular positions for selectively coupling one of the N input waveguides to one of the M output waveguides;

a fixture for holding the refractive element in the space

between the reflector and the optical waveguide array so that one parallel major surface is directed toward the reflector and the other parallel major surface is directed toward the optical waveguide array; and

means for moving the reflector and the waveguide array, in their space apart, fixed orientation, and the refractive element holding fixture with respect to each other to change the orientation of the parallel major surfaces of the refractive element with respect to the reflector and waveguide array.

3. A method for rotating a light beam about the X axis in an optical switch of a type comprising a reflector; an optical waveguide array including N input waveguides and M output waveguides; a refractive element having parallel major surfaces, the method comprising the steps of;

i) providing means for holding the reflector and the waveguide array in a spaced apart, fixed orientation;

ii) providing a fixture for holding the refractive element in the space between the reflector and the optical waveguide array so that one parallel major surface is oriented toward the reflector and the other parallel major surface is oriented toward the optical waveguide array; and

iii) providing means for mounting the reflector and waveguide array, in their spaced apart, fixed orientation, and the refractive element holding fixture so they are movable with respect to each other and that movement changes the orientation of the parallel major surfaces of the refractive element with respect to the reflector and waveguide array.

4. A subassembly for rotating a light beam about the X axis in an optical switch of a type comprising a reflector; an optical waveguide array including N input waveguides and M output waveguides; and, a refractive element having parallel major surfaces, the subassembly comprising;

means for holding the reflector and the waveguide array in a spaced apart, fixed orientation;

a fixture for holding the refractive element in the space between the reflector and the optical waveguide array so that one parallel major surface is directed toward the reflector and the other parallel major surface is directed toward the optical waveguide array; and

means for moving the reflector and the waveguide array, in their space apart, fixed orientation, and the refractive element holding fixture with respect to each other to change the orientation of the parallel major surfaces of the refractive element with respect to the reflector and waveguide array.

~~(*covers refractive element without Y axis pivot)~~